UHN Princess Margaret Cancer Centre

Radiation Medicine Program

Proton therapy is an advanced form of precision cancer treatment, which may reduce unnecessary radiation dose to normal tissues while achieving tumour control. In some cases, patients treated with proton therapy may have fewer long-term side effects of radiation. This is why the value of proton therapy is being increasingly recognized across different disease sites.

Presently, Canada does not have a hospital-based proton therapy facility that can treat children or adults with cancer. As part of informing ongoing discussions regarding the value of proton therapy, we are offering a dosimetry consultation service for any Canadian radiation oncologist considering proton therapy for their pediatric or adult patients. For physicians who are interested in knowing whether there will be potential benefit in prescribing proton therapy over photon radiation therapy, **our service will create a proton plan for any referred patient to provide a quantitative estimate of dosimetric benefit for evaluation and educational purposes.**

This consultation service is not a part of the application and approval process for referring a patient for proton therapy in the United States. Applications to a patient's provincial ministry of health will be required as per usual.

How to Request Proton Therapy Consultation Services

1. Referring physicians should write a referral letter or fill out the Proton Therapy Consultation Service Request Form [PDF] and fax to 416 946 2919 or email to Protons@uhn.ca. Make sure the following details are included in your submission:
    - Reason for referral, noted as "Proton Consultation Service"
    - Patient demographics, date of birth, and health card number
    - Referring physician name, contact information (phone/fax/email) and billing number
    - Recent clinical notes, including diagnosis, indication for RT, and RT prescription
    - Primary responsibility for care of the patient remains with the referring team, including submission of an out-of-country proton beam therapy application to the Ministry, if applicable.
2. An RT-DICOM dataset with contoured targets (GTV, CTV, PTV) and organs-at-risk should be submitted to the team via your institutional file portal or UHN File Portal as well as planning objectives sheet (see page 2 of form). It is also recommended that the referring team submit a photon radiation plan.
3. The access link from the file portal should be submitted to Protons@uhn.ca.
    - Place all files in a common folder and zip files using 7-Zip, WinZip or WinRAR.
    - Upload files using the UHN File Portal or a secure file transfer protocol as per your institutional standards.
    - Select **"Patient Information"** level file protection.
    - Document **both** the automatically generated **Download Password** and the **Unzip Password** that you have created. (There are **two passwords**).
    - Enter your email address. An email will be sent to this address containing a download link for your files.
    - Share the download link with Protons@uhn.ca and share the **two** passwords via Protons2@uhn.ca.

What to Expect

1. After receipt of details, proton planning will be performed by a team of trained dosimetrists, physicists, and radiation oncologists. If requested, a photon plan can be generated as well.
2. The Princess Margaret team will provide a written report and electronic imaging data (in RT-DICOM format) to the referring radiation oncology team, including key dosimetric

parameters and dose-volume histograms.

3. Our goal is to provide a turnaround time of 5 working days from receipt of the referral.
    - Proton plans that are created are not intended to be used for treatment delivery, but may be used by the referring team to guide treatment decision-making.
    - There is no cost to the referring physician or patient for this service.

Patients with diagnoses that require urgent commencement of proton therapy (i.e. medulloblastoma) should not be referred for this consultation service to minimize delays to starting radiation.

Checklist

- Optional form can be filled out
- Referral must include:
    1. Patient demographics, date of birth, and health card number
    2. Referring physician information
        - Name
        - Contact information (phone/fax/email)
        - Billing number
    3. Recent clinical notes with the following details:
        - Diagnosis
        - Indication for RT
        - RT prescription
    4. DICOM-RT datasets, including:
        - Diagnostic or planning CT dataset
        - RT-Struct including organs-at-risk, GTV, CTV and PTV
        - Photon RT-Plan and RT-Dose (recommended)

Resources

- Proton Therapy Request Form [PDF]
- Proton Referral Checklist (CCO) [PDF]
- Proton Therapy FAQ for Patients and Families (CCO) [PDF]

Contact Us

If you have any inquiries about this service, please email:

- **Proton Consult Service Coordinator**
  Protons@uhn.ca Phone: 416 946 2121
- **Dr. Derek Tsang, Radiation Oncologist**
  Derek.Tsang@uhn.ca
- **Dr. Jillian Tsai, Radiation Oncologist**
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